VisionICs

Datasheet - 4330

320x240 Pixel ToF Imager

Features

- Imaging Array:
  - 320×240 array
  - Active area: 4800×3600 μm^2
  - Die size: 6789×6980 μm^2
  - Effective Pixel Pitch: 15x15 μm^2
  - Frame rate: scalable up to 30 FPS
- Optical Properties:
  - SPAD PDE: 5% @ 940nm
- Distance Measurement
  - Range: up to 15m
  - Range resolution: 0.75cm
  - Measurement accuracy: ±1%
- On-Chip Calibration
  - Ambient light suppressing
  - System level calibration for non-linear signal distortions
- Digital Interface:
  - Configuration: I2C, up to 200kHz
  - ToF output: MIPI-CSI2, DVP
- Power Supply: 1.5V/3.3V/28.5V
- Optimized Optical Package
  - COB
- Operating Temperature: -20°C to 65°C
- Storage Temperature: -40°C to 105°C

Applications

- Advanced Driver Assistance System (ADAS)
- SLAM for robotic vacuum
- 3D machine vision
- Security and surveillance
- Gesture controls
- Augmented and virtual reality
- Collisions avoidance for UAV (Unmanned Aerial Vehicle) & AGV (Automated Guided Vehicle)

Description

VisionICs releases a single photon imaging sensor features a monolithic single photon imaging detector array of 76.8k pixels (320 rows by 240 columns) with integrated 3D imaging electrical circuits. The SoC provides the high-performance and cost-effective solid-state Lidar and 3D imaging solutions. Based on visionICs' single photon detection and direct Time-of-Flight (ToF) technology, the sensor could output 3D cloud point data with centimeter distance resolution. Actual detection range depends on the laser optical power and optics field-of-view. High reliability and robust can be achieved by removing the mechanical scanning system. The sensor is capable of working at outdoor environment, thanks to the on-die ambient light suppression algorithm.